

Erik J. L. Larson

325 Broadway, Boulder, CO 80305
(303) 497-4746 · erik.larson@noaa.gov

Education

2014 Ph.D., University of Colorado, Atmospheric and Oceanic Sciences
Dissertation title: "Three-dimensional modeling of Titan's aerosols and winds"
2010 M.S., University of Colorado, Astrophysical and Planetary Sciences
2006 B.A.s, Grinnell College, Physics, Biology

Scholarships, Honors, and Awards

2014 NASA Astrobiology Institute Summer School Scholarship
2012 AGU Fame Lab semifinalist
2012 JPL Planetary Science Summer School Scholarship
2012 DPS Hartman student travel grant
2011 NSF Principal Investigator
2008-present University of Colorado Graduate Research Assistant Fellowship
2002-2006 Grinnell College Trustee Honor Scholarship
2003-2006 Academic All-Conference - Swimming

Career Experience

2014-present Research Scientist, National Oceanic and Atmospheric Administration (NOAA), Science adviser: Robert Portmann.

Research Experience

2008-2014 Graduate Research Assistant, University of Colorado, Adviser: Owen B. Toon. I modeled the aerosol haze on Titan and its dynamical and radiative effects on Titan's atmosphere.
2011 National Science Foundation East Asia and Pacific Summer Institute/Japan Society for the Promotion of Science Summer Program, University of Tokyo, Japan (Adviser: Dr. Seiji Sugita). *Tholin sensitivity to atmospheric methane abundance and the climatic impact*.
2008 National Science Foundation, International Research Experience for Graduate Students (IRES), Indian Institute of Astrophysics, Bangalore, India (Adviser: Prof. S.P. Bagare). *Study of sky radiometer observational data from Hanle*. (technical report)
2005 National Science Foundation, Research Experience for Undergraduates (REU), University of South Carolina, Department of Biological Sciences (Adviser: Austin Hughes). *Differential selection across gene functional groups in Humans*.

Teaching Experience

2012-2013 Adjunct professor, Department of Science, Front Range Community College. Taught Astronomy 101 and Integrated Science 156.
2007-2008 Graduate Teaching Assistant, University of Colorado, Department of Astrophysical and Planetary Sciences.

Publications

- Larson, E.J.L., Toon, O.B., West, R. A., Friedson, A.J. 2015. Microphysical modeling of Titan's detached haze layer. *Icarus*, *in press*.
- Larson, E.J.L. 2014. Three dimensional modeling of Titan's aerosols and winds. PhD dissertation University of Colorado. Ann Arbor: ProQuest/UMI. (Publication num. AAT 3621359).
- Larson, E.J.L., Toon, O.B., Friedson, A.J. 2014. Simulating Titan's aerosols in a three-dimensional global circulation model. *Icarus*. **243**, 400-419.
- Ningombam, S. S., Bagare, S. P., Srivastava, A. K., Sohn, B.J., Song, H.-J., Larson, E. 2014. Aerosol radiative forcing over a high-altitude station Merak, in the trans-Himalayan region during advection of anthropogenic events from the Indo-Gangetic Plain. *Atmospheric Environment*, **98**, 253-259
- Ningombam, S. S., Bagare, S. P., Sinha, N., Singh, R. B., Srivastava, A. K., Larson, E., Kanawade, V. P. 2013. Characterization of aerosol optical properties over the high altitude station Hanle, in the trans-Himalayan region. *Atmospheric Research* **138**, 308-323.

Conference and Meeting Proceedings

- Larson, E.J.L. 2014. Three-dimensional modeling of Titan's organic haze with implications for the early Earth. *Astrobiology Graduate Conference MC03*.
- Larson, E.J.L., Toon, O.B, Friedson, A.J., 2014. CAM angular momentum conservation on slow rotators. *CESM Workshop* Feb. 12, 2014.
- Larson, E.J.L., Toon, O.B, Friedson, A.J., 2013. Orographic forcing of dune forming winds on Titan. *AGU Fall Meeting P53D-1892*.
- Larson, E. J. L., Toon, O. B., Friedson, A. J., 2013. Effects of topography on the dune forming winds on Titan. *American Astronomical Society, DPS meeting #45, #309.02*
- Larson, E. J. L. et al. 2012. Aerosol Optical Properties Over the High Altitude Station Hanle in the Western Himalayas. *AGU Fall Meeting A51A-0010*.
- Larson, E. J. L., Toon, O. B., Friedson, A. J., West, R. A. 2012. Exploring Titan's Aerosols with a Three Dimensional GCM. *American Astronomical Society, DPS meeting #44, #312.05*.
- Larson, E. J. L.; Sekine, Y.; Sugita, S.; Sasamori, T.; McKay, C. P. ; Toon, O. B. 2012. Tholin Sensitivity to Atmospheric Methane Abundance and the Implications for Multiple Stable States of Titan's Climate System. *43rd Lunar and Planetary Science Conference, held March 19–23, 2012 at The Woodlands, Texas. LPI Contribution No. 1659, id.1427*
- E. Larson, O. Toon, A. Friedson, R. West. 2011. Simulating Titan's Aerosols in a 3 Dimensional GCM. *EPSC Abstracts Vol. 6, EPSC-DPS2011-1495*.
- Larson, Erik J. L.; Toon, O. B.; Friedson, A. J.; West, R. A. 2010 Aerosol particle shape and radiative coupling in a three dimensional Titan GCM. *American Astronomical Society, DPS meeting #42, #36.14; Bulletin of the American Astronomical Society, Vol. 42, p.1067*
- Larson, Erik J. L.; Toon, Owen B. 2010. Seasonal cycles on Titan from a Coupled Aerosol Microphysical and Global Circulation Model. *Titan Through Time; A*

Workshop On Titan's Past, Present and Future, NASA Goddard Space Flight Center, April 6th - 8th, 2010. Edited by V. Cottini, C. Nixon, and R. Lorenz., p.35
Larson, Erik J. L.; Toon, O. B.; Friedson, A. J.; West, R. A.; Wilson, E. H.; Oyafuso, F.; Orton, G. S.; Barth, E. L. 2009. A Coupled Three Dimensional Aerosol Microphysics And Global Circulation Model For Titan. *American Astronomical Society, DPS meeting #41, #33.05.*

Professional Affiliations

American Astronomical Society, Division for Planetary Science
American Geophysical Union

Volunteer and Outreach

2009-present	I Have A Dream Foundation. Science tutor and mentor.
2013	UK Astrobiology Academy. Student mentor.
2010-present	Colorado Science Fair. Judge and student mentor.
2009-2010	Colorado Project Astro-Geo. K-12 science outreach program.